REMARKS

Claims 1-19 are currently pending in this application, as amended. Claims 1, 3 and 9 have been amended to more particularly point out and distinctly claim the invention. Support for the amendment to claims 1, 3 and 9 can be found in the original claims and in the original specification paragraph [0018] and [0028]. Claims 2-8 have been amended to properly depend from amended independent claim 1. Claims 11-19 have been added based upon the original disclosure. Support for new claims 11-19 can be found in the original claims and Figs. 1-2 and 3A-3E and in the original specification at paragraphs [0016]-[0028], among other places. Accordingly, no new matter has been added.

Rejections under 35 U.S.C. § 102(b)

Claims 1, 3, 8 and 10 have been rejected as being anticipated by U.S. Patent No. 4,258,291 ("Scott *et al.*," hereinafter, "Scott").

Withdrawal of the rejections of claims 1, 3, 8 and 10 is respectfully requested for at least the following reasons.

Claim 1

Claim 1, as amended, recites, *inter alia*:

> a controller electrically coupled to the peak integrator, the controller being configured to receive the trigger signal and to provide at least first and second digital control output signals and generate an analog sound output signal in response to the trigger signal....
> [emphasis added]

Scott fails to disclose or suggest an amusement device having an improved control circuit.

Scott fails to disclose or suggest an amusement device controller configured to receive a trigger signal and to provide at least first and second digital control output signals and

generate an analog sound output signal in response to the trigger signal, as set forth in amended claim 1.

Scott discloses a smoke alarm-activated portable light or lamp 1 including a microphone 4 and sound activated circuit 5 responsive to the sound signal of a smoke alarm 3 to illuminate a light bulb 2 by controlling power from a battery 6. The microphone 4 is either a frequency selective microphone or includes a suitable bandpass filter for a desired frequency range (e.g., 2.6-3.4 KHz). The microphone and/or bandpass filter 4 provides an electrical signal which is amplified by gain stages 11 and 12. The output of amplifier 12 is applied to a peak detector circuit 14 which provides a steady DC signal having a level equal to the peak level of the signal from the amplifier 12. A buffer stage 15 receives the steady signal from the peak detector 14 and provides isolation between the amplifier stages 11 and 12 and a power amplifier circuit 16. The power amplifier circuit 16 in turn drives the light 2.

The Examiner characterizes the buffer stage 15 as being a "controller 15 for providing a control output in response to the trigger signal from peak integrator 14." Applicant respectfully traverses the Examiner's characterization of buffer stage 15 as being a controller. But, even if *arguendo* the buffer stage 15 of Scott is a controller, in view of the foregoing amendment, the buffer stage 15 of Scott clearly does not provide at least first and second digital control outputs and clearly does not generate an analog sound output signal in response to the trigger signal.

A claim is anticipated under 35 U.S.C. § 102 only if each and every element as set forth in the claim is found expressly or inherently described in a single prior art reference and the elements must be arranged as required in the claim. MPEP § 2131. Scott fails to disclose an amusement device. Scott fails to disclose a controller configured to receive a trigger signal and to provide at least first and second digital control output signals and generate an analog sound output signal in response to the trigger signal, and therefore, Scott fails to disclose or suggest each and every element of claim 1 and of dependent claims 3 and 8. It is therefore, respectfully submitted, that independent claim 1 is not anticipated by Scott. Accordingly, it is respectfully

requested that the rejection of independent claim 1 and dependent claims 3 and 8 under 35 U.S.C. § 102(b) be withdrawn.

Claim 10

Claim 10, as originally written, recites, *inter alia*:

> a controller electrically coupled to the peak integrator, the controller being configured to receive the trigger signal and to control a light, a motor and a sound output device in response to receiving the trigger signal.
> [emphasis added to original claim language]

Scott fails to disclose or suggest a controller configured to receive the trigger signal and to control a light, a motor and a sound output device in response to receiving the trigger signal, as set forth in claim 10 as originally written.

Scott discloses a smoke alarm-activated portable light or lamp 1, as described above with respect to claim 1. The Examiner characterizes the buffer stage 15 of Scott as being a "controller 15 for providing a control output in response to the trigger signal form peak integrator 14." Applicant respectfully traverses the Examiner's characterization of buffer stage 15 as being a controller. But, even if *arguendo* the buffer stage 15 of Scott is a controller, the buffer stage 15 of Scott clearly does not control a light, a motor and a sound output device in response to receiving the trigger signal.

Therefore, Scott fails to disclose or suggest each and every element of claim 10. It is therefore, respectfully submitted, that independent claim 10 is not anticipated by Scott. Accordingly, it is respectfully requested that the rejection of independent claim 10 under 35 U.S.C. § 102(b) be withdrawn.

Claim Rejections Under 35 U.S.C. § 103(a)

Claims 1-4 and 7-8 Rejection

Claims 1-4 and 7-8 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,231,184 ("Corris *et al.*," hereinafter, "Corris") in view of U.S. Patent No. 5,158,212 ("Sirhan").

Withdrawal of the rejections of claims 1-4 and 7-8 is respectfully requested in view of the foregoing amendment and for at least the following reasons.

Claim 1

Claim 1, as amended, recites, *inter alia*:

> a controller electrically coupled to the peak integrator, the controller being configured to receive the trigger signal and to provide at least first and second digital control output signals and generate an analog sound output signal in response to the trigger signal....
> [emphasis added]

Corris, or Corris modified by Sirhan, each fails to disclose or suggest a controller configured to provide at least first and second digital control output signals and generate an analog sound output signal in response to the trigger signal, as set forth in amended claim 1.

Corris discloses a toy doll having a sound detection circuit using a microphone, an amplifier, a band pass filter, a timing circuit and transistors that control motors. The timing circuit of Corris is not a peak integrator that controls the output only after receiving a predetermined range of averaged peaks output from the filter. The combination of amplifiers A3, A4, resistor R15 and capacitor C4 responds immediately to a detected audible signal in a pre-selected range output from a bandpass filter amplifier A2 and the timing circuit (resistor R15 and capacitor C4) determines how long the control output will drive the motor(s) 38 and 58 (i.e., one output from amplifier A4 drives both transistors Q1, Q1 to activate motors 32, 58). Motor 58 in turn drives a turntable 48 with a needle 66 that transmits directly to a speaker 94.

Sirhan fails to compensate for the deficiencies of Corris. Sirhan discloses a helmet amusement device 10 having a voice-activated squirt assembly 30 integrally mounted in a helmet 11. The voice-activated circuit 90 includes a microphone 92 positioned within the space

defined by lowered face guard 12 to provide maximum pickup of the voice command and to exclude most extraneous sounds, thereby preventing inadvertent activation such as by the shouts of an opponent and insuring the receipt of a valid voice command. The microphone 92 receives a valid voice command which activates the circuit 90 and causes the squirting of water. The voice-activated circuit 90 also includes a detection and amplification circuit 94. The output of the microphone 92 is applied as an input to the detection and amplification circuit 94 across a sensitivity threshold adjust member 96. The voice-activated circuit 90 also includes an integration and toggle circuit 98. The output of the detection and amplification circuit 94 is the input to the integration and toggle circuit 98. The integration and toggle circuit 98 includes potentiometer 100 which establishes the rate of integration of the integration and toggle circuit 98. The potentiometer 100 is adjusted so that only sounds which exceed some minimum duration will activate the voice-activated circuit 90. Typically the potentiometer 100 is adjusted so that these will be sounds lasting longer than a few hundred milliseconds.

To establish *prima facie* obviousness of a claimed invention, all the claimed limitations must be taught or suggested by the prior art. MPEP § 2143.03. Further, to support the conclusion that the claimed invention is directed to obvious subject matter, either the reference must expressly or implicitly suggest the claimed invention or the Examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to be obvious in light of the teachings of the references. MPEP § 2143.01.

Corris fails to disclose a controller providing at least first and second digital control output signals and generating an analog sound output signal in response to the trigger signal. Sirhan also fails to disclose a controller providing at least first and second digital control output signals and generating an analog sound output signal in response to the trigger signal. Accordingly, all the claimed limitations are not taught or suggested by the combination of Corris and Sirhan.

Even if Corris were modified to include the purported peak integrator for averaging amplitude peaks and outputting a trigger signal of Sirhan, the modified Corris device would still not disclose each and every element of claims 1-4 and 7-8. Thus, all of the claimed elements of claims 1-4 and 7-8 are not disclosed by the modified Corris device. Applicant

therefore respectfully submits that claims 1-4 and 7-8 are not obvious under 35 U.S.C. § 103(a) in view of the combination of Corris and Sirhan. Accordingly, Applicant respectfully requests that the rejection of claims 1-4 and 7-8 under 35 U.S.C. § 103(a) be withdrawn.

Claims 5-6 Rejection

Claims 5-6 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Corris and Sirhan and further in view of U.S. Patent No. 4,973,286 ("Davison").

Withdrawal of the rejections of claims 5-6 is respectfully requested for at least the following reasons.

Claims 5-6

Claims 5-6 depend from independent claim 1.

Corris modified by Sirhan or Corris modified by Sirhan and Davison, each fails to disclose or suggest a controller configured to provide at least first and second digital control output signals and generate an analog sound output signal in response to a trigger signal.

For all of the reasons mentioned above with respect to claim 1, even if Corris were modified to include peak integrator for averaging amplitude peaks and outputting a trigger signal of Sirhan, the modified Corris device would still not disclose each and every element of claims 5-6.

Davison fails to compensate for the deficiencies of Corris and Sirhan. Davison discloses a crib toy including a microphone 100, a filter 102, a one-shot trigger 103 and a timer controller 57/104/105 that drives a motor 80 and/or a sound generator 110/112. The microphone 100 is coupled through a capacitor 121 and potentiometer 122 (together forming a filter) to the base electrode 127 of a transistor (the one-shot trigger) 103 (column 8, lines 18-30). The one-shot 103 remains inactive until the signal from microphone 100 exceeds a bias voltage (column 8, lines 64-67). Sound energy received by microphone 100 such as produced by the manipulation of rattle 23 produces a corresponding electrical signal which is applied to threshold amplifier 101. A threshold amplifier 101 is coupled to the received signal to filter 102 once the received signal exceeds a

predetermined threshold. Should the threshold of circuit 101 be exceeded (i.e., sufficient volume), the output signal of threshold circuit 101 is filtered by filter 102 and applied to the trigger input of trigger circuit 103. Filter 102 functions to exclude short duration erratic noise information and avoid false triggering of trigger circuit 103. Trigger circuit 103 responds to the input signal from filter 102 to produce an output signal for activating either circuit 104 or 105 in accordance with the switch setting position of mode selection switch 57. Circuits 104 and 105 differ only in the duration of output signal they produce. When the duration switch 57 is in a first position, the output signal of trigger circuit 103 is applied to delay circuit 104 which produces an output signal at coupling 106 for a first predetermined period of time. When the duration switch 57 is in a second position, the output signal of trigger circuit 103 is applied to delay circuit 105 which produces an output signal at coupling 106 for a second predetermined period of time. The output signal is applied to a three position mode selection switch 56. When mode selection switch 56 is positioned in an "off" position, no connection is made to either melody circuit 110 or motor 80. When mode selection switch 56 is positioned in a second position, the output signal from circuit 104 or 105 is applied solely to melody circuit 110 which produces an output music signal which is applied to output transducer 112 to provide audible music. When mode selection switch 56 is in a third position, the output signal simultaneously energizes motor 80 and melody circuit 110.

But, Davison – like Corris and Sirhan – also lacks a controller configured to provide at least first and second digital control output signals and generate an analog sound output signal in response to the trigger signal.

Even if Corris modified by Sirhan were further modified to include the "shaking rattle" of Davison, as suggested by the Examiner, the modified Corris device would still not disclose each and every element of claims 5-6. Thus, all of the claimed elements of claims 5-6 are not disclosed by the modified Corris device. Applicant therefore respectfully submits that claims 5-6 are not obvious under 35 U.S.C. § 103(a) in view of the combination of Corris and Davison. Accordingly, Applicant respectfully requests that the rejection of claims 5-6 under 35 U.S.C. § 103(a) be withdrawn.

Claim 9 Rejection

Claim 9 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Scott in view of U.S. Patent No. 4,670,864 ("Hoffman").

Withdrawal of the rejections of claim 9 is respectfully requested in view of the foregoing amendment and for at least the following reasons.

Claim 9

Claim 9, as amended, recites, *inter alia*:

> a controller electrically coupled to the peak integrator and to the sound detection circuit, the controller being configured to receive the trigger signal and to provide at least first and second digital control output signals in response to the trigger signal, the first digital control output signal disabling the sound detection circuit for a predetermined period of time after receiving the trigger signal and the second digital control output signal controlling one of a light and a motor....
> [emphasis added]

Scott and Hoffman each fail to disclose or suggest an amusement device having an improved control circuit.

Scott, or Scott modified by Hoffman, each fails to disclose or suggest a controller configured to provide at least first and second digital control output signals in response to the trigger signal, wherein the first digital control output signal disable[es] the sound detection circuit for a predetermined period of time after receiving the trigger signal and the second digital control output signal control[s] one of a light and a motor, as set forth in amended claim 9.

As mentioned above, Scott discloses a smoke alarm-activated portable light or lamp 1 including a microphone 4 and sound activated circuit 5 responsive to the sound signal of a smoke alarm 3 to illuminate a light bulb 2 by controlling power from a battery 6. The microphone 4 is either a frequency selective microphone or includes a suitable bandpass filter for a desired frequency range (e.g., 2.6-3.4 KHz). The microphone and/or bandpass filter 4 provides an electrical signal which is amplified by gain stages 11 and 12. The output of amplifier 12 is

applied to a peak detector circuit 14 which provides a steady DC signal having a level equal to the peak level of the signal from the amplifier 12. A buffer stage 15 receives the steady signal from the peak detector 14 and provides isolation between the amplifier stages 11 and 12 and a power amplifier circuit 16. The power amplifier circuit 16 in turn drives the light 2.

The Examiner characterizes the buffer stage 15 as being a "controller 15 for providing a control output in response to the trigger signal form peak integrator 14." Applicant respectfully traverses the Examiner's characterization of buffer stage 15 as being a controller. But, even if *arguendo* the buffer stage 15 of Scott is a controller, in view of the foregoing amendment, the buffer stage 15 of Scott clearly does not disclose disabling the sound detection circuit and controlling one of a light and a motor.

Hoffman fails to compensate for the deficiencies of Scott. Hoffman discloses a voice interruptible alarm device including a microphone 1, filter-amplifier 2, rectifier 3, monoflop 7, clock integrated circuit 5 and switching element 9. An input 18 of switching element 9 is connected to a positive pole 19 of a direct voltage source and an output 17 of switching element 9 is switchably connected with the input 18. Thus, the switching element 9 determines to apply DC power to the microphone 1 and filter-amplifier unit 2 *only* when the alarm is being signaled. (Col. 3, lines 50-68 and col. 4, lines 1-7). Accordingly, Hoffman also fails to disclose or suggest a controller configured to provide at least first and second digital control output signals in response to the trigger signal, wherein the first digital control output signal disable[es] the sound detection circuit for a predetermined period of time after receiving the trigger signal and the second digital control output signal control[s] one of a light and a motor.

Furthermore, if the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984); MPEP §2143.01.

The Examiner suggests that the microphone 1 and filter unit 2 are disconnected from the circuitry when the alarm signal is interrupted. The Applicant respectfully traverses the

Examiner's characterization of the circuit of Hoffman and/or the Examiner's attempted impermissible modification of Hoffman. As noted in Hoffman, the microphone 1 and filter and amplifier unit 2 are connected to the voltage supply *only* during the period of time the alarm signal is being emitted for energy savings. (Col. 3, lines 50-68 and col. 4, lines 1-7). It is the alarm signal that provides the "trigger" to switching element 9 to turn *on* the microphone while the alarm is sounding so that the microphone 1 can detect a voice signal to thereby deactivate the alarm. Therefore, when switching element 9 receives a [trigger] signal, switching element 9 *activates* the microphone 1 and filter-amplifier unit 2.

In contradistinction, the present invention as set forth in claim 9, the sound detector detects audible sound signals *until* the trigger signal trips ("to average amplitude peaks... and to output a trigger signal based on a predetermined range of the averaged filter signal") and *then* the controller disables the sound detector for a predetermined period of time. If the circuit of Hoffman were modified to deactivate the microphone *when* the trigger (output 6) was detected (i.e., the pulsed operation of the alarm was received at input 13 of switching element 9), then the circuit could not detect a voice signal to shut off the alarm signal. Therefore, if the circuit of Hoffman were modified as suggested by the Examiner, the circuit of Hoffman would not function for its intended purpose, so there is also no suggestion or motivation to make the proposed modification to the Hoffman microphone disconnecting circuitry.

Scott and Hoffman each fail to disclose or suggest an amusement device having an improved control circuit. Even if Scott were modified to include the "input disconnecting circuitry" of Hoffman, the modified Scott device would still not disclose each and every element of claim 9, as amended. Thus, all of the claimed elements of claim 9 are not disclosed by the modified Scott device. Further, if the circuit of Hoffman were modified as suggested by the Examiner, the circuit of Hoffman would not function for its intended purpose, so there is also no suggestion or motivation to make the proposed modification to the Hoffman microphone disconnecting circuitry. Applicant therefore respectfully submits that claim 9 is not obvious under 35 U.S.C. § 103(a) in view of the combination of Scott and Hoffman. Accordingly,

Applicant respectfully requests that the rejection of claim 9 under 35 U.S.C. § 103(a) be withdrawn.

New Claims

Claims 11-19 have been added based upon the original claims, Figs. 1-2 and 3A-3E and original specification at paragraphs [0016]-[0028]. Accordingly, no new matter is added.

None of the references cited by the Examiner discloses or suggests a toy set having a first amusement device that mechanically generates sound in a predetermined audible frequency range when manipulated by an infant and a second amusement device having a control circuit, a light, a motor and a sound output device, wherein the control circuit is configured to extract sound signals in the predetermined audible frequency range and cause a controller to provide a first digital control output signal to the light, provide a second digital control output signal to the motor and generate an analog sound output signal to the sound output device in response to the trigger signal.

Furthermore, none of the references cited by the Examiner discloses an amusement device having an improved control circuit that includes a controller configured to receive the trigger signal and to control a light, a motor and a sound output device in response to receiving the trigger signal.

Notably, Scott and Hoffman are not even amusement devices. Corris, Sirhan and Davison *at least* all lack a controller that provides the requisite outputs as claimed in claims 11-19.

CONCLUSION

In view of the foregoing Amendments and Remarks, it is respectfully submitted that the present application, including claims 1-19, is in condition of allowance.

Respectfully submitted,

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